

GEOGRAPHIC NEWS BULLETINS

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated under the Federal law as a non-commercial institution for the increase of geographic knowledge and its popular diffusion.)

General Headquarters, Washington, D. C.

Contents For Week of November 22, 1926. Vol. V. No. 18.

1. The Yangtze: The World's Busiest River.
2. The Balance Sheet of Britain's Food Supply.
3. Japanese Apartment Houses, and Some Others.
4. The Home Towns of Some Famous Cheeses.
5. "Fascism" and "Il Duce."
6. The Jump in the Jumping Bean.



© National Geographic Society.

THE MIN, A BRANCH OF THE YANGTZE, BELOW CHENGTU

In the foreground is the end of a soldier boat for transporting river guards (see Bulletin No. 1).

HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic News Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers for one year upon receipt of 25 cents (in stamps or money order). Entered as second-class matter January 27, 1922, at the Post Office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized February 9, 1922.

GEOGRAPHIC NEWS BULLETINS

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated under the Federal law as a non-commercial institution for the increase of geographic knowledge and its popular diffusion.)

General Headquarters, Washington, D. C.

Contents For Week of November 22, 1926. Vol. V. No. 18.

1. The Yangtze: The World's Busiest River.
2. The Balance Sheet of Britain's Food Supply.
3. Japanese Apartment Houses, and Some Others.
4. The Home Towns of Some Famous Cheeses.
5. "Fascism" and "Il Duce."
6. The Jump in the Jumping Bean.



© National Geographic Society.

THE MIN, A BRANCH OF THE YANGTZE, BELOW CHENGTU

In the foreground is the end of a soldier boat for transporting river guards (see Bulletin No. 1).

HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic News Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers for one year upon receipt of 25 cents (in stamps or money order). Entered as second-class matter January 27, 1922, at the Post Office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized February 9, 1922.



GEOGRAPHIC NEWS BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

The Yangtze: The World's Busiest River

THE BUSIEST waterway in the world and the stream whose basin holds a greater population than any other is the Yangtze River in China. United States naval authorities recently had to warn American ships to curtail sailings on parts of the stream because of landing expeditions by Chinese troops of warring factions. The Yangtze is the only river outside American territory upon which American gunboats are constantly on guard.

Others Surpass It in Length and Volume

The Yangtze River cannot quite claim to be either the greatest or the longest river in the world. Its length is about 3,000 miles and it is therefore exceeded by the Mississippi-Missouri, the Amazon, the Nile and one or two others. In volume it probably ranks third: after the Amazon and the Congo. But the Yangtze can lay claim to a much more important factor than mere bigness or length. With its tributary rivers, lakes, and canals, it constitutes the inland water system most used by man as a carrier of his commerce.

The Yangtze rises in central Tibet at an altitude of 15,000 feet or more among the tangled mass of mountains and plateaus that also give birth to three other huge Asiatic streams: the Yellow, the Mekong and the Salween. In its journey to the sea it cuts through several distinct mountain ranges, forming some of the deepest river gorges in the world. At one point in Yunnan, the gorge of the river is 13,000 feet deep. In 1923 and 1924 these far western gorges of the Yangtze were explored and photographed for the first time by an expedition of the National Geographic Society, headed by Joseph F. Rock.

Known by a Dozen Names to Chinese

As a whole, the river is known as the Yangtze only to the Western World. It has perhaps a dozen names to the Chinese at different points along its course. Only the two or three hundred miles nearest the ocean go by the name "Yangtze Kiang" to the natives. The most popular names farther up are the Chinese equivalents of "The Long River" and "The Great River."

The Yangtze is a west-east river flowing in the lower temperate zone. Placed in the same latitude in America, the stream would rise in southwestern Arizona not far north of Yuma. It would cross into Texas just east of El Paso and zigzag southeastward to Monterey, Mexico, its southernmost point. Turning northeastward it would then parallel the Gulf coast a few miles inland, passing near Houston, New Orleans, and Pensacola, to flow into the ocean at Savannah. To duplicate actual conditions this imaginary American Yangtze should, of course, have a solid block of rich territory to the south where the Gulf of Mexico lies.

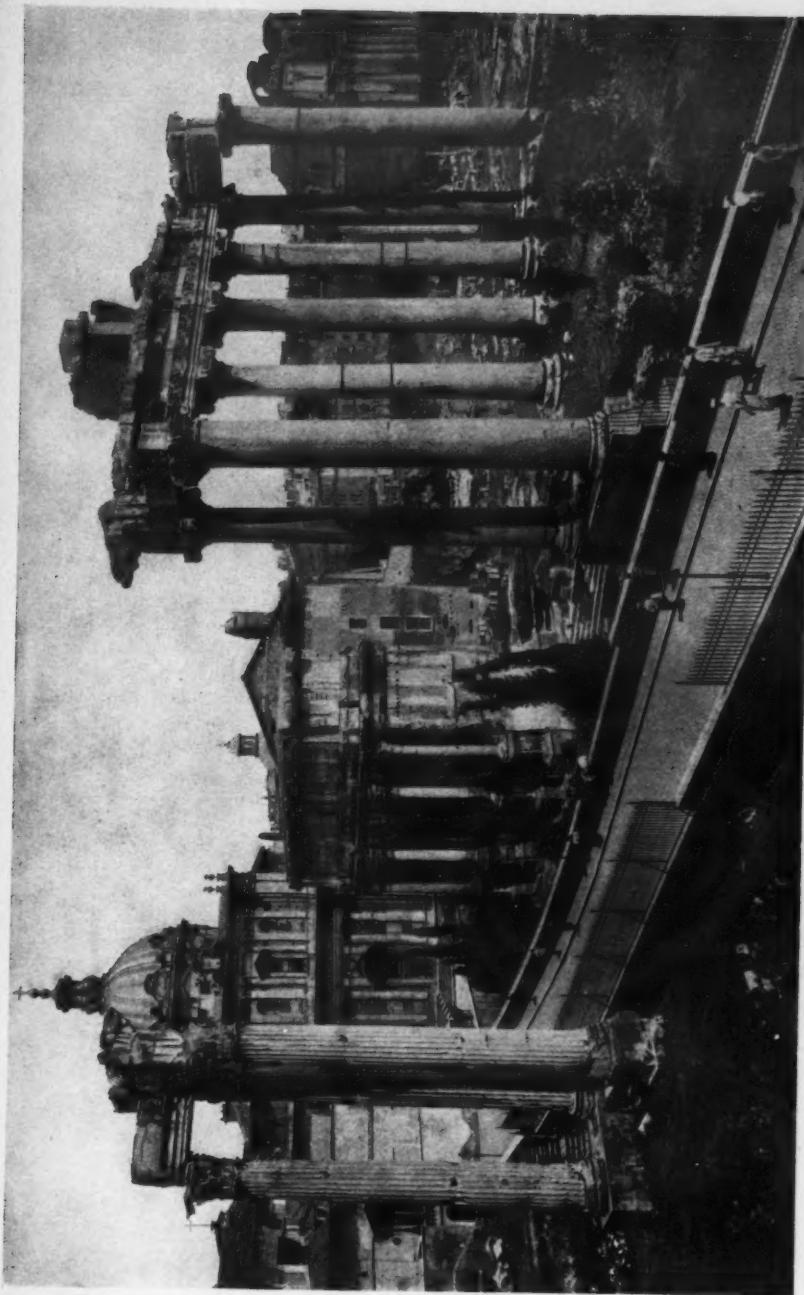
Valley Holds One-Tenth Earth's Population

On this relocated river, ocean-going ships would sail 640 miles to New Orleans, the relative position of Hankow, China's greatest distributing center. Smaller river steamers would ascend more than 300 miles farther to Houston, the relative position of Chungking, head of steam navigation, passing en route through the famous mid-Yangtze gorges. Junks would ascend as far as the Texas-Mexican border and beyond.

Bulletin No. 1, November 22, 1926 (over).

THE ROMAN FORUM

Heart of the mighty empire of the Caesars, source from which has come the system of law that has been the model of every modern nation, the Roman Forum was also the center of architectural and civic beauty. The most conspicuous of the ancient remains in this quarter was the Temple of Saturn, with its Ionic portico of eight columns. The marble arch of Septimius Severus, shown to the right of the roadway, was raised to commemorate his wars in Parthia and Arabia. The three Corinthian columns in the left foreground are remains of the Temple of Vespasian. At the extreme right is the Temple of Faustina. The Column of Phocas, standing before the Rostra, or orator's tribune, may be seen through the columns of the Temple of Saturn (see Bulletin No. 5).



GEOGRAPHIC NEWS BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

The Balance Sheet of Britain's Food Supply

EARLY this month American exporters suddenly faced difficulty in getting full space allotments for shipments to England. The United States Shipping Board put vessels from its reserve fleet into service to handle the cargoes.

The reason for this congestion was temporary, heavy shipments of American coal being sent to England because of the strike there, but it illustrates the dependence of England on the outside world for many of her supplies, especially foodstuffs.

Of all the major foods necessary to feed a nation of 43,000,000, Britain can supply herself with only one, fish.

Must Buy Her Bread Abroad

Britannia is in the plight of the Old Lady Who Lived in a Shoe. Although she has put 1,500,000 of her children to work on farms to feed the family, her cupboard would be quite bare if she did not go to the ends of the earth to market. She must buy from the world 80 per cent of the wheat that makes the British bread, and 80 per cent of the oats for breakfast food and for her very literal horse power.

Although her dairy farms are well stocked with the best of cattle, Britannia can supply only the fresh milk demanded by her millions. But considering milk and milk products as a whole, only 45 per cent is produced at home. Three-fourths of the butter, three-fourths of the cheese, three-fourths of the condensed milk that go to make British brawn and sinew, come from the continent or from North America. In normal times Britain uses three-fourths of the world's surplus butter.

Meat is always on the table of the Lady that Lives in the tight British Shoe. Her "farm" which has many acres of splendid grass, does rather better in the matter of providing roasts and mutton. Nevertheless, 57 per cent of the beef and veal, 63 per cent of the mutton and lamb and 58 per cent of the pork must be purchased outside the country. Many ships must be converted into market baskets to go to Denmark, China, Egypt, Holland, Canada, the United States, France and Italy to collect two-thirds of the 4,325,000,000 eggs consumed in England in one year.

Trading Cloth for Bread

With so much to buy in the world market, Britannia has to send millions of her people to the factories where they can earn money to pay their board. When a war or a strike comes the shoe pinches more than ever because nowhere in the world is the balance of production and consumption so delicate and so intricate. No good economic scale has yet been created to weigh a pound of coal or a pound of cotton cloth against a pound of meat or bread.

In prosperous times of peace the palate is the dictator of the breakfast, dinner and supper table. If coffee is savory, send to Brazil for it. Father wishes the tart acid of grape fruit. Call on Florida. But mother would have the fruity mildness of a Nicaraguan banana. Sugar from the West Indies everyone calls for. There is a strip of Irish bacon beside the eggs which may be seasoned with Michigan salt and East India black pepper.

But in a crisis such as England experienced during her general strike a new standard is immediately invoked. Two pounds of food per day will keep a person

The Yangtze is the life artery of China. It drains an area of 770,000 square miles, equal to one-quarter the total area of the United States; and in this basin live approximately 175,000,000 people—once and a half the population of our 48 States. Railroads are few in this region, and the commerce that must supply the needs of this vast horde of workers and consumers (one-tenth of the entire population of the world) moves almost wholly by water: over the Great River itself and the complex network of navigable streams, canals and lakes that connect with it in its lower 1,000 miles.

Has Three Major Natural Commercial Advantages

At no other place in the world are three all-important economic factors making for trade so happily associated: a broad, deep, natural waterway for ships and a teeming, civilized population living on fertile, cultivated soil. The Yangtze, from 30 to 40 miles wide at its mouth, is a broad open door to the sea inviting the ships of the world to enter. And enter they do. Trans-shipping is unnecessary for 640 miles, ocean-going steamers ascending easily that distance to Hankow. But broad as the Yangtze is, it is crowded with traffic. The traveler finds no break in the unending stream of steamers, barges, junks and sampans. And frequently he encounters one of the huge rafts of logs on each of which the crew and their families have built a little village. On these floating islands, pigs and chickens wander about, children play, and women hang out their wash and carry on other domestic duties exactly as in some little Chinese hamlet on dry ground.

From Hankow to Ichang, a distance of about 250 miles, river steamers are used. Ichang lies at the lower end of the world-famed Yangtze Gorges. Until recent years this stretch of 125 miles through towering mountains, up swirling rapids, could be negotiated only in native junks pulled from the shore by bands of coolie "trackers." It required weeks to make the trip. Now specially constructed steamers breast the ten-knot current, steaming through in 40 hours.

United States Gunboats Patrol River

Above the gorges the river widens and the steamers go on to Chungking, 350 miles above Ichang. In this stretch of 350 miles the gorge steamers fight their way uphill for 500 feet.

When China, after the middle of the past century, was forced to open up interior ports to the commerce of the West, the ships of the United States, Great Britain, France and other Powers entered the Yangtze. This shipping was often in danger because of uprisings and looted towns. The Powers, including the United States, therefore stationed gunboats on the Yangtze to protect their interest. This is the only place in the world where the United States Navy maintains such a force on a foreign river. Since the World War this flotilla, now consisting of seven boats, has been known officially as the American "Yangtze Patrol."

GEOGRAPHIC NEWS BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Japanese Apartment Houses, and Some Others

IN THE REBUILDING of parts of Tokyo damaged by the earthquake of 1923 many western architectural ideas were introduced. Among the innovations were apartment houses modelled after the American type, the first of their kind in the Japanese Capital.

Apartment Houses Not New

The apartment house is by no means a new housing device, except in our particular development of it, along lines of comfort, convenience and luxury. In all ages and in many parts of the world, congestion in cities has been a major factor in driving different families to share a common roof. China may be taken as the shining exception which proves this rule, for although the units of her teeming population have been treading on one another's toes for many centuries, few of them have forsaken the individual dwelling.

Babylon has been suggested as the home of the first apartment house or tenement; yet that "first" world metropolis may have repeated merely the reaction to population pressure shown by other cities, lost beyond the horizon of history. Ancient Rome had two- and three-story tenements of brick and stucco, but they disappeared long ago; and some of their sites no doubt support today modern community dwellings. In the ghettos and other sections of medieval European cities, families found it necessary to occupy dwellings jointly just as they do today in London, Paris, Berlin, Vienna, and dozens of other cities of the Old World.

United States Fertile Field for Apartment Houses

It is in the United States, however, that apartment houses seem to have found their ultimate development in quantity, quality, volume and height. Not only do they line the Fifth Avenues and the Michigan Boulevards of the population centers, but they are springing up as well along the main streets of countless small towns where congestion has not yet been felt. The American desire to get a thing done efficiently and quickly is another cause for the marked trend toward apartment house life.

Apartment houses early came into existence outside cities as well as in them. The need of association for protection was doubtless the chief reason for the rise of the isolated community dwelling. Probably very early in man's history, in regions where the facilities were suitable, groups of families found it safest to occupy natural or artificial caves in the same cliff face, so that alarms might be spread easily and so that the full man-power of the community might be quickly marshalled in times of danger. Such dwellings probably constituted the world's earliest "apartment houses."

Early Community Homes in Our Southwest

In America these safety apartments had a somewhat different development at a much later date. The Cliff Dwellings of the Southwest were occupied not by savages, but by a people of considerable culture. Nor were their dwellings mere caves. Structures of excellent masonry were built on the ledges of cliffs under overhanging cornices.

The Pueblos, still occupied today, belong to a second type of American

going. The desires of the individual are unimportant. He can exist on the food that is most concentrated and most adaptable for transportation. One of the first acts of the British Government in the crisis last summer was to invoke a law to permit rationing, such as existed during the World War. When the German submarines were sinking British food ships, the director of food economy allowed men doing heavy manual labor to have 8 pounds of bread a week and women doing easy work, 3 pounds and a half. Other rations were: cereals other than bread, 12 ounces; meat, 2 pounds; butter, margarine, oils and fats, 10 ounces; sugar, 8 ounces.

Cultivation in the Isles Is Intense

The British Government has moved to increase and vary the agricultural production of the British Isles because of the danger of food shortage. But it has been uphill work. England's cultivation already approaches Belgium and Japan in its intensity. Farmers in England, Ireland, Wales and Scotland are conservative by tradition and hesitate to accept new methods worked out in the United States, Canada and Australia. Since there is no tariff, the Dominions and foreign nations can ship in many food products raised on a large scale.

Bulletin No. 2, November 22, 1926.



© National Geographic Society.

EXPLORING A ROOM IN PUEBLO BONITO

These ruins of an ancient "apartment house" in the most thickly settled part of what now is the United States were inhabited before Columbus came (see Bulletin No. 3). A National Geographic Society Expedition explored them and found many evidences of a highly complex civilization, as interesting in its way as the traces of early Egyptians.

GEOGRAPHIC NEWS BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

The Home Towns of Some Famous Cheeses

UTRECHT, HOLLAND, one of the world's most important cheese producing regions, has appointed a woman director of its cheese central station. Her duty is to see that shipments of cheese from some 2,500 farms meet certain standards. Her appointment is a reminder of the important rôle women have played in the cheese industry.

Last year a memorial tablet was erected to Mme. Marie Harel, creator of camembert cheese, on her Brittany cottage in Camembert, France.

Following the World War, the United States Department of Agriculture was surprised to find a large increase in imports of camembert cheese from France. Investigation showed that the A. E. F., like the old Crusaders returning from Palestine with a new-found love for the spices and silks of the East, came back from France with a relish for camembert.

"Bully beef" was drab fare to the American doughboy. He craved a substitute for the pies and all the rest that mother made. So he sought out French farm-houses where he begged or bought food that knew not tins. Usually his search was rewarded with cheese. What could banish camp rations monotony more readily than spicy-odored and spicy-flavored camembert? With a bit of camembert wrapped in tin-foil there must be purchased in many American stores to-day memories of friendly folk in deep-roofed Norman cottages.

Made by a Mold

What Mme. Harel discovered in Camembert, 30 miles south of the resort Deauville, was the way to control a certain mold.

The camembert culture can now be obtained from concerns which make it a business to grow it. Camembert and allied varieties, such as Brie, are cured widely throughout Northern France. American production now shares the United States market. Camembert differs from most cheeses in that the mold forming on the exterior mellows the core. When the cheese is ripe the interior is a creamy blob enclosed in a stiff, discolored sheath.

So slender is the path the world makes to the historic homes of famous cheeses that one often must go to Baedeker for the sign posts. Camembert is on few maps; Cheddar, which supplies the technical title for American or "rat trap" cheese, is 15 miles southeast of Bristol, England; Stilton is 65 miles directly north of London; Gorgonzola is in Italy, close to Milan; Parma, one of the largest of the cheese towns, is the city in south Lombardy that gives its name to Parmesan; Swiss cheese is more properly Emmental, for the Valley of Emmen near Bern; Münster in Germany saw the birth of Münster cheese; red and yellow Edam cheese balls are still colorful ornaments to the Edam market near Amsterdam; Neufchâtel, on the Dieppe-Paris rail line, was the object of German drives for far other purposes than to get soft cream cheese; Limbourg, the town made famous by an odor, lies near Liège where Belgium halted the invaders; and finally there is Roquefort, in the Auvergne Plateau of Central France.

The Queen of Roman Cheese

Could a senator of ancient Rome shop with his wife in a modern metropolitan delicatessen, he would certainly come out of the door with a package of

Bulletin No. 4, November 22, 1936 (over).

"apartment house." These are usually constructed on a flat-topped hill or mesa and consist of a more or less jumbled pile of rooms built of adobe or mud brick. To still another type, most closely resembling the apartment house of today, belonged the great masonry structures such as Pueblo Bonito in Chaco Canyon, New Mexico, which in its heyday, centuries ago, housed 1,200 people. The exploration and partial restoration of this great dwelling by the National Geographic Society has disclosed numerous private apartments and public rooms of excellent construction.

Typical Japanese House of Wood and Paper

Tokyo's new American type apartment, with its thick concrete walls, sound-proof partitions, plumbing and hot water heat, will be in striking contrast to the usual type of Japanese dwelling. The latter has a sturdier skeleton than our frame houses, and outer walls of boards, but its interior partitions are of the frailest construction. They are, in fact, more properly screens than walls. They usually consist of a number of frames covered with decorated paper. These panels may be slid quickly to one side or entirely removed, making it possible to throw the entire interior of the house into one room or to have a series of apartments. Even the outer walls facing gardens are often removable.

The typical Japanese home has no chimney. Cooking is done on small stoves with charcoal, and one keeps warm by putting on additional padded clothing and by sitting near a small brazier—perhaps an individual one—also using charcoal for fuel.

The typical Japanese dwelling such as this does not now have the entire field to itself. In the larger cities a number of frame houses and some of brick have been built along American lines in recent years. But the Japanese house of "wood and paper" still shelters its millions.

Bulletin No. 3, November 22, 1926.



© National Geographic Society.

THE TENSE MOMENT BEFORE A JAPANESE WRESTLING MATCH BEGINS

The contenders have stamped their feet, eaten their salt, rinsed their mouths, slapped their knees, and are waiting the signal to clinch. The distinctly Japanese type of wrestling, known as jujutsu, became popular in Japan in the sixteenth century, having been introduced by Akiyama, a noted physician, who learned it in China and elaborated greatly on the original methods. It has always been semi-secret in character, being taught only after the pupil has taken an oath not to reveal the knowledge. A master in the art can by a slight, quick movement break a man's neck, ankle, dislocate his hip or shoulder, burst or twist a tendon, or benumb his brain.

GEOGRAPHIC NEWS BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

"Fascism" and "Il Duce"

FASCISM, which celebrated October 28 as the fourth anniversary of its triumph in Rome and its taking over of the Italian government, is a familiar term to millions of people, but to most of them it is only a name—usually mispronounced.

The name comes from "fascio," meaning "a bundle."

The Fascist emblem is a bundle of rods or sticks bound about a battle-ax. Turn up the "tails" of a United States ten-cent piece and you find a counterpart of the Fascist emblem. The idea underlying the name is, in effect, "In union there is strength." Ancient Rome originated the emblem: the United States and Fascism copied it. The official mace of our House of Representatives is also the same as the Fascist emblem.

Fascisti is plural and means several or many Fascista. It is pronounced almost as though spelled "fasheesti." The Fascist system is Fascismo, pronounced "fasheesmo."

In addition to the general Fascist organization there is the Fascist militia with its Centurioni (captains), Consoli (colonels), its higher officials, and at the top of all, Il Duce, "the Chief." Premier Mussolini holds this title. It is pronounced as though written "Eel Doosay."

Bulletin No. 8, November 22, 1926.

The Jump in the Jumping Bean

A MAN may be unable to lift himself by his bootstraps but a tiny worm of a Latin-American insect can not only hoist itself without the aid of hands or feet, but, as if to make the trick more difficult, performs the act in a house four times as big as itself, carrying the house along. This is the "inside" story of the celebrated Mexican jumping bean, or "broncho" bean, as it is known in our own southwest.

The Mexican jumping bean is the seed of any of the three or four members of a family of swamp trees, listed officially under the ponderous title of *euphorbiaceous* plants, when infested by a full grown larva of the small gray tortricid moth. When the plant is in blossom the moth lays an egg in one part of the flower. That part of the flower grows with the rest, but, instead of becoming a pod for the seed of the tree, it turns into a home for the insect. The egg soon hatches into a worm, which occupied only about a fifth of the pod or shell.

When the seed pods drop during the summer the husk splits into three parts—two containing seed. The third is what is known as the jumping bean. The latter is a triangular brown pod about the size of a peanut kernel, with two plain surfaces and one curved surface.

As soon as the pod falls from the tree the worm or larva inside coils up, then lets itself go suddenly, like a catapult, giving a forward motion to the pod. Sometimes it rolls from side to side and sometimes moves fairly consistently in one direction by leaps and jumps.

Late in winter the larva cuts a circular door through the seed walls, strengthens it with silk and transforms to pupa. The moth soon after pushes its way through this prepared door.

Bulletin No. 8, November 22, 1926.

Roquefort, for two reasons; first, because it would be one of the few comestibles with which he was familiar; second, because Roquefort was prized beyond all cheeses in Rome.

For more than two thousand years the caverns of Roquefort have cured cheeses. Roquefort has a natural monopoly because nowhere else do Nature and man combine the same elements. In the limestone rock are numerous linked caves in which there is much water. Nature maintains in these caverns a constant temperature which hovers above freezing and an atmosphere saturated with moisture; perfect conditions to favor the Roquefort mold and discourage growth of other molds.

On the rocks above hillsmen tend 450,000 sheep, a special breed in which the requirements for wool and for meat have been sacrificed for the maximum supply of milk."

Spores Are Propagated in Bread

Roquefort culture spores are propagated in special bread which is dried, ground and mixed into the sheep-milk cheese. Before the cheese goes to the caverns the makers perforate the cylinders with a skewer to admit air. Skewer marks may be traced in the slender lines of green mold found in all Roquefort cheese.

America's contributions to the cheese industry have been chiefly scientific production, large scale output, and improved styles of marketing.

Philadelphia cream cheese and some other cream cheeses are new in that fresh curd is used, but the texture links them to the Neufchatel group.

Wisconsin Outstrips Switzerland

Wisconsin in one year produces more than twice as much cheese as Switzerland. Yet Wisconsin owes an eternal debt to Switzerland because her cheese industry was built up in part by Swiss immigrants. Still earlier, Amsterdam's knowledge of cheese making was transplanted to New Amsterdam and cheese making centers still mark the westward march of Dutch pioneers in New York, Michigan and parts of Wisconsin.

Loaf cheese, wrapped in tin-foil, is strictly a Yankee invention and a good one because a slice is the size of a piece of bread and because drying cannot exact great losses in money and quality.

Not many months ago a man who is an important figure in American politics and industry arrived in Washington. Employees in this man's Washington office stood ready to do his bidding. His first question on this trip made their heads whirl.

"How can one put holes in Swiss cheese?" he asked.

His employees soon found this was no joking matter. This famous man, it appears, when he can forget affairs of the United States, the World and business, is absorbed in his big farm. A problem had arisen in the dairy. The Swiss cheese had no holes. Since the presence or absence of holes affects the flavor, this was important. He had come to Washington in search of holes. Next day a four-page report on holes for Swiss cheese was on his desk. It said in part that bacteria known as Swiss cultures were the excavators, or more properly, the bellows. Gas generated by the bacteria expands the rubbery, raw cheese as yeast does bread. Further, that the organisms can be had from the Department of Agriculture and certain State Universities.

The Department of Agriculture not only knows Swiss cheese but also makes it in its experimental dairy. A visitor to the Dairy Division can see most any day a pint bottle with enough bacteria to inflate a cheese the size of the airship *Los Angeles*.

Membership in The National Geographic Society

TEACHERS constantly inquire about membership in the National Geographic Society, and the procedure necessary to obtain the *National Geographic Magazine*, so highly valued in schools, and The Society's maps and panoramas which also go to members.

The National Geographic Society is an altruistic, non-commercial, educational institution, in which membership is acquired only through nomination by persons who already are members. The Society is supported entirely by the dues of its members, and these dues are devoted wholly to issuance of *The Geographic* and other publications which members receive, and to The Society's scientific expeditions and educational work, such as that represented by its **GEOGRAPHIC NEWS BULLETINS** and **Pictorial Geography** sets.

A major problem of visual teaching is procuring adequate pictures. Thousands of teachers are finding the *National Geographic Magazine* indispensable, for their personal use and an invaluable adjunct in classrooms because of its unique photographs, marvelous color series and its articles on Nature, industries, popular science, explorations and other phases of humanized geography.

Yearly *The Geographic* publishes 1,400 or more photographs, many of them obtainable nowhere else, and even a fraction of this number of geographic photographs, commercially published, would cost many times the annual dues of \$3.

For your convenience a nomination blank, which members use in nominating their friends to the rich benefits of membership, is attached:

DUES

Annual membership in U. S., \$3.00; annual membership abroad, \$4.00; Canada, \$3.50; life membership, \$20.00. Please make remittance payable to the National Geographic Society, and if at a distance, by New York draft, postal or express order.

RECOMMENDATION FOR MEMBERSHIP

IN THE

NATIONAL GEOGRAPHIC SOCIETY

*The Membership Fee Includes Subscription to the
National Geographic Magazine*

PLEASE DETACH AND FILL IN BLANK BELOW AND SEND TO THE SECRETARY

192

To the Secretary, *National Geographic Society*,
Sixteenth and M Streets Northwest, Washington, D. C.:

I nominate _____

Occupation _____

(This information is important for the records.)

Address _____

for membership in the Society.

b-56

Name and Address of Nominating Member

